Air Force Personnel Center

Air Force Officer Qualifying Test (AFOQT) Form T

Preparation Course

Updated: August 2014

AFOQT Sections

- Verbal Analogies
- Arithmetic Reasoning
- Word Knowledge
- Math Knowledge
- Reading Comprehension
- Situational Judgment Test
- Self-Description Inventory
- Physical Science
- Table Reading
- Instrument Comprehension
- Block Counting
- Aviation Information

AFOQT Sections

- Verbal Analogies
- Arithmetic Reasoning
- Word Knowledge
- Math Knowledge
- Reading Comprehension

REQUIRED TO COMMISSION

- Situational Judgment Test
- Self-Description Inventory
- Physical Science
- Table Reading
- Instrument Comprehension
- Block Counting
- Aviation Information

AFOQT Composite Scores

SUBTEST	Items	Pilot	CSO	ABM	Academic	Verbal	Quantitative	Situational Judgment
Verbal Analogies	25			✓	✓	✓		
Arithmetic Reasoning	25				✓		✓	
Word Knowledge	25		✓		✓	✓		
Math Knowledge	25	✓	✓	✓	✓		✓	
Reading Comprehension	25				✓	✓		
Situational Judgment Test	50							✓
Table Reading	40	✓	✓	✓				
Instrument Comprehension	25	✓		✓				
Block Counting	30		✓	✓				
Aviation Information	20	✓		✓				

Note. Rated composites are in bold.

AFOQT Composite Descriptions

- **Pilot -** Measures knowledge and abilities considered necessary for successful completion of manned and unmanned pilot training.
- **Combat Systems Officer (CSO) -** Measures knowledge and abilities considered necessary for successful completion of CSO training.
- **Air Battle Manager (ABM) -** Measures knowledge and abilities considered necessary for successful completion of ABM training.
- **Academic Aptitude -** Measures verbal and quantitative knowledge and abilities. The Academic Aptitude composite combines all subtests that make up the Verbal and Quantitative composites.
- **Verbal -** Measures verbal knowledge and abilities. The Verbal composite has subtests which measure the ability to reason, make inferences, and recognize relationships among words.
- **Quantitative -** Measures quantitative knowledge and abilities. The Quantitative composite shares subtests with the CSO composite discussed above and has subtests which measure the ability to understand and reason with arithmetic relationships and to use mathematical terms, formulas, and relationships.
- **Situational Judgment -** Measures judgment and decision-making in responding to the types of interpersonal situations often encountered by junior USAF officers. Questions are based on real scenarios experienced by junior officers (O1-O3) requiring core competencies of Integrity and Professionalism, Leadership, Resource Management, Communication, Innovation, and Mentoring.

Preparation

- **Diligent preparation will ensure your test score accurately reflects your aptitudes and abilities.**
- **Become familiar with all instructions and time limits.**
- **Accurate practice and repetition are key.**
- **Creating flash cards for practice can be beneficial.**
- **Create a rigid study schedule that is free from distractions and interruptions.**
- **The practice tests presented in this prep guide will give you valuable feedback on specific areas you will want to focus on in your study plan.**
- **Study alone. Group study for the AFOQT is NOT allowed.**

Basic Test-Taking Principles

- **Get a good night's rest before you take the test.**
- **Eat sensibly before the test. Being hungry or too full could negatively impact your performance.**
- **Follow the directions carefully.**
- **Read each question carefully.**
- **Read *all* of the response options carefully before deciding on your answer.**
- **Carefully mark your answer to ensure that the question number in the test booklet matches the question number on your answer sheet.**
- **Maintain a steady tempo. Don't spend too much time on any one question.**
- **If you are not sure of the answer, make a selection anyway. The process of elimination may help you to narrow your choices down to 2 or 3 reasonable options. There is no penalty for guessing.**
- **Do NOT cheat or fail to follow instructions to the letter, such as putting your pencil down immediately when time is called.**

What to Expect

- No personal electronic devices are allowed (e.g., cell phones, smart phones, calculators, etc.).
- No need to bring anything.
- All questions are multiple choice.
  - 4-5 answer choices for each question.
- Number of examinees will vary by location.
- Examinees will be spaced out evenly across the desks.
- All 12 sections are timed.
- Total administration will take approximately 5 hours.
- There are two short breaks during

Verbal Analogies

- **Measures your ability to reason and see relationships among words.**
- **You will be given 8 minutes to answer 25 questions.**

Verbal Analogies - Strategies

- **Rephrase the question.**
- **Become familiar with the five types of analogies described on the next slide.**
- **Identify the part of speech: Verb, noun, adjective, etc.**
- **Identify the tense: Past, present, and future.**

Verbal Analogies - Strategies

- **Five Types of Verbal Analogies**
  - **SYNONYM/DEFINITION**
  - **ANTONYM**
  - **FUNCTION/RELATIONSHIP**
  - **CLASSIFICATION**
  - **PART-TO-WHOLE**

Verbal Analogies - Strategies

- **Five Types of Verbal Analogies**

SYNONYM: Same meaning or definition

Example 1: ALTRUISTIC is to UNSELFISH as SAFETY is to

A. **HEIGHT**
B. **OBJECTIVE**
C. **QUAINT**
D. **SECURITY**
E. **BELT**

Example 2: SANCTUARY is to REFUGEE as

F. **CAVE is to BEAR**
G. **VAULT is to VALUABLES**
H. **TRIUMPH is to CONTEST**
I. **CARNIVORE is to OMNIVORE**
J. **DOG is to PREDATOR**

Verbal Analogies - Strategies

- **Five Types of Verbal Analogies**

ANTONYM: Opposites

Example 1: HAPPY is to SAD as RIGID is to

A. STIFF
B. FLEXIBLE
C. CONSERVATIVE
D. TIGHT
E. FAULTY

Example 2: PRIDE is to HUMBLE as

F. SERVILE is to SERVANT
G. HUMOR is to SOMBER
H. WOOD is to TREE
I. CAMPING is to RECREATION
J. SHOVEL is to DIG

Verbal Analogies - Strategies

- **Five Types of Verbal Analogies**

FUNCTION/RELATIONSHIP

Example 1: HAMMER is to NAIL as

A. **PEN is to INK**
B. **KNIFE is to SHARP**
C. **CAR is to WHEEL**
D. **SCISSORS is to PAPER**
E. **GLUE is to TUBE**

Example 2: BAROMETER is to PRESSURE as CALIPERS is to

F. **CUTTING**
G. **HEIGHT**
H. **CONSTANCY**
I. **THICKNESS**
J. **PLIERS**

Verbal Analogies - Strategies

- **Five Types of Verbal Analogies**

CLASSIFICATION: #1 is a specific type of, or belongs to, #2

Example 1: ARGON is to GAS as

A. **BOOK is to LIBRARY**
B. **MAPLE is to TREE**
C. **HEART is to PACEMAKER**
D. **PAUPER is to MONEY**
E. **COMPUTER is to KEYBOARD**

Example 2: TOOL is to DRILL as POEM is to

F. **SONG**
G. **MACHINE**
H. **SONNET**
I. **BIRD**
J. **NOVEL**

Verbal Analogies - Strategies

- **Five Types of Verbal Analogies**

PART-TO-WHOLE

Example 1: SINGER is to CHOIR as

A. **JUICE is to COLA**
B. **SENATOR is to REPRESENTATIVE**
C. **PILOT is to JET**
D. **FOREARM is to SKELETON**
E. **BUTTON is to NOZZLE**

<u>Alternately presented as: Whole-to-Part</u>

Example 2: DOLLAR is to QUARTER as

F. **MEDICINE is to HARM**
G. **MILK is to BREAKFAST**
H. **HANDS is to CLOCK**
I. **MONTH is to WEEK**
J. **CRANE is to LIFT**

Verbal Analogies (cont.)

- **Practice Test**

Verbal Analogies (cont.)

- **DIRECTIONS: This part of the test measures your ability to reason and see relationships among words. You are to choose the option that best completes the analogy developed at the beginning of each statement.**

Verbal Analogies (cont.)

1. **FORK is to EAT as PEN is to**
   - A. **INK**
   - B. **PENCIL**
   - C. **WRITE**
   - D. **LETTER**
   - E. **BOOK**

2. **BOOK is to CHAPTER as BUILDING is to**
   - A. **ELEVATOR**
   - B. **LOBBY**
   - C. **ROOF**
   - D. **STORY**
   - E. **WING**

3. **ACTOR is to STAGE as**
   - A. **PATIENT is to DOCTOR**
   - B. **OUTSIDE is to BENCH**
   - C. **GARAGE is to CAR**
   - D. **TEACHER is to CLASSROOM**
   - E. **METER is to ELECTRICITY**

Verbal Analogies (cont.)

4. **TYRANT is to CRUELTY as**
   - A. **DRAWL is to SPEAKER**
   - B. **COMPILE is to DISSEMBLE**
   - C. **ACCOLADE is to AWARD**
   - D. **SYCOPHANT is to FLATTERY**
   - E. **WAX is to CANDLE**

5. **SLOTH is to LAZINESS as**
   - A. **GENTEEL is to VULGAR**
   - B. **INSOMNIAC is to SLEEPLESSNESS**
   - C. **HACKNEYED is to UNIQUE**
   - D. **ACCEDE is to RESPECT**
   - E. **CRYPT is to TOMB**

6. **HALLOWED is to SACRED as**
   - A. **SOLDIER is to ARMY**
   - B. **GAMUT is to PROVINCIAL**
   - C. **LIBEL is to PRAISE**
   - D. **NOMADIC is to WANDERING**
   - E. **OBLIVIOUS is to KEEN**

Verbal Analogies (cont.)

7. **DANCER is to ENSEMBLE as**
   - A. **YOGURT is to MILK**
   - B. **STUDENT is to CLASS**
   - C. **MOUNTAIN is to PRECIPICE**
   - D. **FLOCK is to SHEEP**
   - E. **DOODLE is to NOTEBOOK**

8. **ANARCHIST is to DISORDER as**
   - A. **YAWN is to BOREDOM**
   - B. **MONTH is to YEAR**
   - C. **GOOD is to BEST**
   - D. **PACIFIST is to PEACE**
   - E. **CONSTELLATION is to STARS**

9. **DOCTOR is to HEALING as**
   - A. **PRISON is to GUARD**
   - B. **DINOSAURS is to PALEONTOLOGIST**
   - C. **AUTHOR is to WRITING**
   - D. **CLAP is to HANDS**
   - E. **PLANETS is to UNIVERSE**

Verbal Analogies (cont.)

10. **POLICE is to LAW as**
    - A. **LION is to DEN**
    - B. **BRUSH is to HAIR**
    - C. **CONDUCTOR is to ORCHESTRA**
    - D. **BOOK is to LIBRARY**
    - E. **CLERGY is to RELIGION**

11. **COOL is to FRIGID as**
    - A. **SPEAKER is to ASSEMBLY**
    - B. **BUG is to COLD**
    - C. **WATER is to BUCKET**
    - D. **DISLIKE is to DETEST**
    - E. **STUNT is to GROWTH**

12. **BREEZE is to GALE as**
    - A. **EYES is to FACE**
    - B. **MALEVOLENT is to CHARITABLE**
    - C. **HOSTILE is to ENEMY**
    - D. **SNOWFLAKE is to BLIZZARD**
    - E. **PUNGENT is to SMELL**

Verbal Analogies (cont.)

13. **CRUMB is to LOAF as**
    - A. **PAINTER is to CANVAS**
    - B. **PUDDLE is to OCEAN**
    - C. **SOUND is to MICROPHONE**
    - D. **PRIDE is to FALL**
    - E. **FEATHER is to QUILL**

14. **CROISSANT is to PASTRY as**
    - A. **SCHOOL is to FISH**
    - B. **TREE is to PEACH**
    - C. **HAIKU is to POEM**
    - D. **KNIFE is to CUT**
    - E. **VENISON is to DEER**

15. **ROMANCE is to NOVEL as**
    - A. **BOON is to BLESSING**
    - B. **RAP is to MUSIC**
    - C. **CREDO is to IMMORAL**
    - D. **FRICTION is to SANDPAPER**
    - E. **DETERMINED is to HESITANT**

Verbal Analogies (cont.)

16. **TANKER is to SHIP as**
    - A. **INSECT is to ANT**
    - B. **MATRIARCH is to MOTHER**
    - C. **MINIVAN is to AUTOMOBILE**
    - D. **COW is to VEAL**
    - E. **DEGREE is to COLLEGE**

17. **WHALE is to OCEAN as**
    - A. **CONGREGATION is to CROWD**
    - B. **POUND is to DOGCATCHER**
    - C. **CHURCH is to STEEPLE**
    - D. **COURT is to TENNIS**
    - E. **BEE is to HIVE**

18. **PRISTINE is to UNSPOILED as**
    - A. **TAINTED is to CONTAMINATED**
    - B. **EASE is to TAXING**
    - C. **ARID is to DELUGED**
    - D. **CHAMPIONED is to ABASED**
    - E. **ANIMUS is to KINDNESS**

Verbal Analogies (cont.)

19. **BIRTH is to LIFE as**
    - A. **RODENT is to SKUNK**
    - B. **GENTRY is to NOBILITY**
    - C. **PROLIFERATE is to CEASE**
    - D. **WINCE is to JOY**
    - E. **EXPOSURE is to INFECTION**

20. **MEDITATION is to RELAXATION as**
    - A. **ORDER is to CHAOS**
    - B. **SYMPTOMS is to BACTERIA**
    - C. **HONE is to WHET**
    - D. **SATIATION is to SATISFACTION**
    - E. **DEXTERITY is to ACCOMPLISHMENT**

21. **ISOLATION is to LONELINESS as**
    - A. **SHORTEN is to NIP**
    - B. **QUIET is to TACIT**
    - C. **PROMOTION is to ADVANCEMENT**
    - D. **MONOTONY is to HOMOGENOUS**
    - E. **RUSTIC is to CITY**

Verbal Analogies (cont.)

22. **BATHING is to CLEANLINESS as**
    - A. **MEDICINE is to HARM**
    - B. **IMPRISONMENT is to PUNISHMENT**
    - C. **BANJO is to COUNTRY**
    - D. **BALLOON is to HELIUM**
    - E. **SADNESS is to BLUES**

23. **SMILING is to HAPPINESS as**
    - A. **EXERCISE is to RUNNING**
    - B. **MOTORCYCLE is to TRAVEL**
    - C. **MILK is to BREAKFAST**
    - D. **SCOWLING is to DISPLEASURE**
    - E. **SHOUTING is to POWER**

24. **HANDS is to CLOCK as**
    - A. **PIANO is to MUSIC**
    - B. **JUSTICE is to COURT**
    - C. **LEGS is to BODY**
    - D. **ANNOYED is to FURIOUS**
    - E. **CARNIVORE is to TIGER**

Verbal Analogies (cont.)

25. **TENSION is to STRESS as VIRUS is to**
    - A. **LIVING**
    - B. **DISEASE**
    - C. **BACTERIA**
    - D. **IMMUNITY**
    - E. **MORBIDITY**

Verbal Analogies (cont.)

- **Practice Test - Answers**

1. C
2. D
3. D
4. D
5. B
6. D
7. B
8. D
9. C
10. E
11. D

Arithmetic Reasoning

- **Measures your ability to use arithmetic to solve problems.**
- **Formula Sheet provides necessary formulas.**
- **Time management is important.**
- **You will be given 29 minutes to answer 25 questions.**

Arithmetic Reasoning Examples

Arithmetic Reasoning Example #1

1. **Tim receives $30 for his birthday and $15 for taking out the trash. If he spends $16 on a CD, how much money does he have left?**
   - A. $29
   - B. $27
   - C. $41
   - D. $1
   - E. $0.45

Solution:

Step 1

$30 (birthday money)
+$15 (trash money)
=$45 (Tim's total)

Step 2

$45 (Tim's total) - $16 (CD) = $29

Answer

Tim has $29 left, so the correct response is A.

Arithmetic Reasoning Examples

Arithmetic Reasoning Example #2

2. If 400 people can be seated in 8 subway cars, how many people can be seated in 5 subway cars?
   - A. 200
   - B. 250
   - C. 300
   - D. 350
   - E. 400

Solution:

Step 1

400 (people) ÷ 8 (subway cars) = 50 (people per car)

Step 2

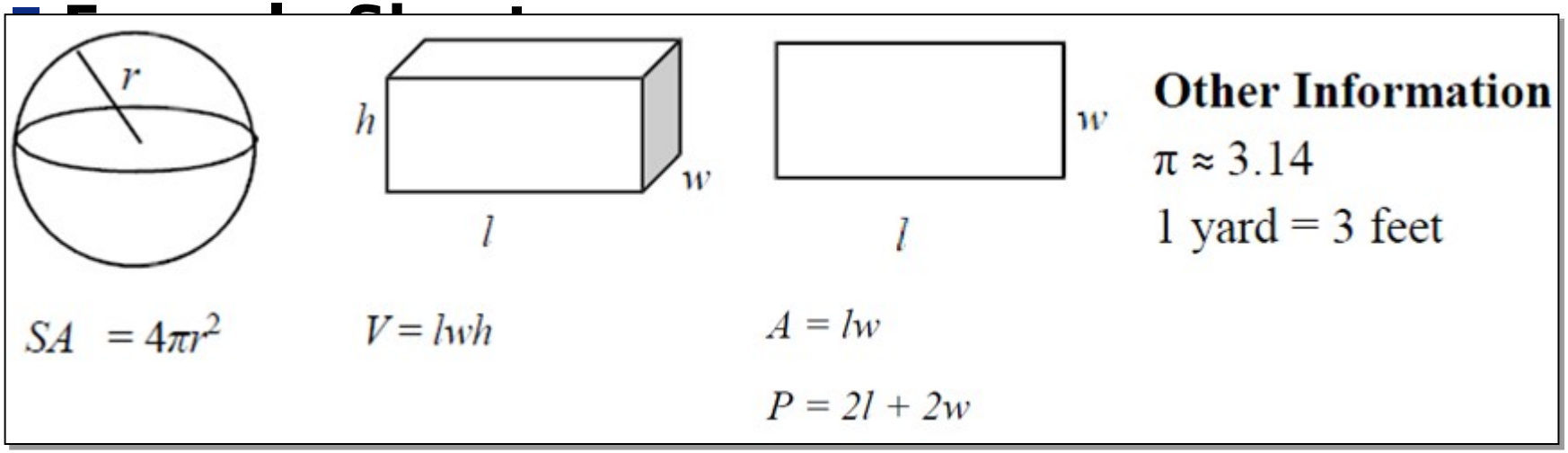
50 (people per car) x 5 (subway cars) = 250

Answer

Five subway cars can accommodate 250 seated people, so the correct response is B.

Arithmetic Reasoning (cont.)

- **DIRECTIONS: This part of the test measures your ability to use arithmetic to solve problems. Each problem is followed by five possible answers. You are to decide which one of the five choices is correct.**



Arithmetic Reasoning (cont.)

1. **Tim weighs 243 pounds. If he loses 3 pounds per week, how much will he weigh in 7 weeks?**
   - A. 211
   - B. 222
   - C. 231
   - D. 240
   - E. 247
2. **Grant reads three hardcover mysteries and four soft cover mysteries. He reads three times as many nonfiction books as he did mysteries. How many nonfiction books did Grant read?**
   - A. 6
   - B. 9
   - C. 12
   - D. 18
   - E. 21
3. **A restaurant bill without tax and tip comes to $38.40. If a 15% tip is included after a 6% tax is added to the amount, how much is the tip?**
   - A. $6.11
   - B. $5.76
   - C. $5.15
   - D. $2.30
   - E. $1.15

Arithmetic Reasoning (cont.)

4. **If a car uses 1.5 gallons of gas every 30 miles, how many miles can be driven with 6 gallons of gas?**
   - A. 100
   - B. 110
   - C. 120
   - D. 130
   - E. 140
5. **A blueprint has a scale of 3 feet per ½ inch. If a bathroom is 1 ½ inches x 2 inches, what are its actual dimensions?**
   - A. 4 ½ feet x 6 feet
   - B. 6 feet x 7 ½ feet
   - C. 7 ½ feet x 9 feet
   - D. 8 ½ feet x 8 ½ feet
   - E. 9 feet x 12 feet
6. **A rectangular bin 4 feet long, 3 feet wide, and 2 feet high is solidly packed with bricks whose dimensions are 8 inches by 4 inches by 2 inches. The number of bricks in the bin is**
   - A. 54
   - B. 324
   - C. 648
   - D. 1072
   - E. 1296

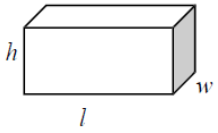
Arithmetic Reasoning (cont.)

7. **Sophie casts a shadow 5 feet long. Her father, who is 6 feet tall, casts a shadow 8 feet long. How tall is Sophie?**
   - A. 6 feet 8 inches
   - B. 4 feet 10 inches
   - C. 4 feet 6 inches
   - D. 3 feet 9 inches
   - E. 2 feet 3 inches
8. **If 2.5 centimeters = 1 inch, and 36 inches = 1 yard, how many centimeters are in 1 yard?**
   - A. 14
   - B. 25
   - C. 70
   - D. 80
   - E. 90
9. **A class of 198 recruits hail from Georgia, North Carolina, and South Carolina. If 1/3 are from Georgia and ¼ of the remainder are from North Carolina, how many of the recruits in the class are from South Carolina?**
   - A. 198
   - B. 165
   - C. 132
   - D. 99
   - E. 66

Arithmetic Reasoning (cont.)

10. **How many gallons of water will be contained in a rectangular tank that measures 2 feet in width, 3 feet in length, and 1 foot 8 inches in depth (assume 1 cu ft = 7.48 gal)?**

    A. 110
    B. 75
    C. 66.6
    D. 55
    E. 45



$V = lwh$

11. **A security guard must check a particular room every 45 minutes. If he first checks the area as he begins a 9-hour tour of duty, how many times will he have to check this storage area?**

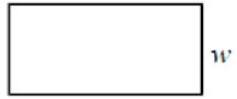
    A. 13
    B. 12
    C. 11
    D. 10
    E. 5

12. **A sport's fan spent a total of $385 on baseball tickets. If only $5 and $6 tickets were bought, and there was an equal number at each price, how many $5 tickets were bought?**

    A. 35
    B. 47
    C. 56
    D. 72
    E. 90

Arithmetic Reasoning (cont.)

13. **The length of a rectangle is 3 times its width. If the perimeter of the rectangle is 48 area?**



$A = lw$

$P = 2l + 2w$

   A. 50
   B. 55
   C. 60
   D. 62
   E. 68

14. **A runner runs 5 miles per hour for 4 hours. If one inch equals 10 miles on a map, how far has the runner traveled on the map?**

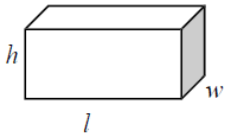
   A. 1 inch
   B. 1.5 inches
   C. 1.8 inches
   D. 2 inches
   E. 2.3 inches

15. **Lt Bartlett spent 2 hours doing pushups, 1 hour doing sprints, and 1.5 hours benching 400 lbs. What percentage of time was spent sprinting?**

   A. 44 percent
   B. 37 percent
   C. 33 percent
   D. 22 percent
   E. 11 percent

Arithmetic Reasoning (cont.)

16. **What is the volume of a container that is 40 feet long, 3 feet wide, and 24 inches wide**



$V = lwh$

   A. 120
   B. 200
   C. 240
   D. 300
   E. 350

17. **A butcher made 22½ lbs of beef into hamburger and wrapped it in 1¼ lb packages. How many packages did he make?**

   A. 15
   B. 16
   C. 17
   D. 18
   E. 19

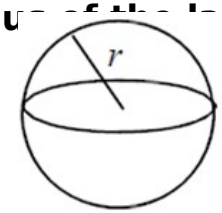
18. **If 15 cans of food are needed for 6 adults for 2 days, the number of cans needed for 4 adults for 5 days is**

   A. 10
   B. 15
   C. 20
   D. 25
   E. 30

Arithmetic Reasoning (cont.)

19. **Many European cars feature speedometers that show kilometers per hour. If you are required to drive 500 miles, and you know that 1 kilometer is approximately 5/8 of a mile, how many kilometers would you cover in that journey?**
    - A. 625
    - B. 800
    - C. 850
    - D. 1000
    - E. 1500

20. **The area of one circle is 4 times as large as a smaller circle with a radius of 3 inches. The radius of the larger circle is**
    - A. 12 in
    - B. 9 in
    - C. 8 in
    - D. 6 in
    - E. 4 in



$SA = 4\pi r^2$

Other Information

$\pi \approx 3.14$

21. **A man deposited a check for $1000 to open an account. Shortly after that, he withdrew $400.00 and then $541.20. How much did he have left in his account?**
    - A. $56.72
    - B. $58.80
    - C. $59.09
    - D. $60.60
    - E. $61.41

Arithmetic Reasoning (cont.)

22. **School enrollment is 1700. Eighteen percent of students study French, 25% study Spanish, 12% study Italian, 15% study German, and the rest study no foreign language. Assuming that each student may only study one language, how many students do not study any foreign language?**
    - A. 510
    - B. 520
    - C. 530
    - D. 540
    - E. 550
23. **Four men working together can create a trench in 42 days. They begin the job, but one man works only half days. How long will it take to complete the job?**
    - A. 46 days
    - B. 48 days
    - C. 50 days
    - D. 52 days
    - E. 54 days
24. **A propane tank holds 20 gallons of gas. When the gauge reads ¼ full, how many gallons are needed to fill the tank?**
    - A. 16
    - B. 15
    - C. 10
    - D. 5
    - E. 4

Arithmetic Reasoning (cont.)

25. **The pilgrims set sail for Plymouth Rock, a distance of approximately 2800 miles, in 63 days. The average speed in miles per hour was closest to which one of the following?**

    A. ½
    B. 1
    C. 2
    D. 3
    E. 4

Arithmetic Reasoning (cont.)

Practice Test – Answers

1.	B
2.	E
3.	A
4.	C
5.	E
6.	C
7.	D
8.	E
9.	D
10.	B
11.	A
12.	A
13.	C
14.	D
15.	D
16.	C
17.	D
18.	D
19.	B
20.	D
21.	B
22.	C
23.	B
24.	B
25.	C

Word Knowledge

- **Measures your knowledge of words and their meanings.**
- **You will be given 5 minutes to answer 25 questions.**

Word Knowledge (cont.)

- **Practice Test**

Word Knowledge (cont.)

- **DIRECTIONS: This part of the test measures your knowledge of words and their meanings. For each question, you are to choose the word below that is closest in meaning to the capitalized word above.**

Word Knowledge (cont.)

1. **ADAMANT**
   - A. Falsify
   - B. Discard
   - C. Enter
   - D. Inflexible
   - E. Petty

2. **ALTERCATION**
   - A. Defeat
   - B. Mockery
   - C. Robbery
   - D. Controversy
   - E. Irritation

3. **ASSENT**
   - A. Acquire
   - B. Climb
   - C. Agreement
   - D. Emphasize
   - E. Participate

4. **ATTRITION**
   - A. Give Up
   - B. Exhaust
   - C. Solve
   - D. Expand
   - E. Purify

Word Knowledge (cont.)

5. **AUTHENTIC**
   - A. Detailed
   - B. Randomly
   - C. Genuine
   - D. Literary
   - E. Practical

6. **CONDUCIVE**
   - A. Confusing
   - B. Cooperative
   - C. Precious
   - D. Energetic
   - E. Respectful

7. **COUNTERACT**
   - A. Criticize
   - B. Erode
   - C. Deceit
   - D. Retreat
   - E. Neutralize

8. **DELETERIOUS**
   - A. Revoke
   - B. Low
   - C. Mangle
   - D. Frail
   - E. Harmful

Word Knowledge (cont.)

9. **DILATED**
   - A. Cleared
   - B. Deceased
   - C. Graphic
   - D. Contradictive
   - E. Enlarged

10. **FLEXIBLE**
   - A. Flammable
   - B. Intercede
   - C. Pliable
   - D. Rigid
   - E. Separable

11. **FORTNIGHT**
   - A. Two days
   - B. One night
   - C. Two weeks
   - D. One month
   - E. 7 hours

12. **IMPARTIAL**
   - A. Complete
   - B. Ignorant
   - C. Fair
   - D. Sincere
   - E. Watchful

Word Knowledge (cont.)

13. **INCIDENTAL**
    - A. Casual
    - B. Unexpected
    - C. Infrequent
    - D. Necessary
    - E. Difficult

14. **INDOLENT**
    - A. Strong
    - B. Aware
    - C. Patient
    - D. Lazy
    - E. Rude

15. **NOTORIOUS**
    - A. Annoying
    - B. Condemned
    - C. Large
    - D. Official
    - E. Famous

16. **REBUFF**
    - A. Forget
    - B. Snub
    - C. Recover
    - D. Polish
    - E. Ignore

Word Knowledge (cont.)

17. **SUCCINCT**
    - A. **Concise**
    - B. **Bliss**
    - C. **Helpless**
    - D. **Sweet**
    - E. **Loud**

18. **SULLEN**
    - A. **Angry**
    - B. **Austere**
    - C. **Happy**
    - D. **Tortured**
    - E. **Sulky**

19. **SYMPTOM**
    - A. **Test**
    - B. **Couch**
    - C. **Edifice**
    - D. **Sign**
    - E. **Denture**

20. **TEDIOUS**
    - A. **Brief**
    - B. **Disconnected**
    - C. **Simple**
    - D. **Dull**
    - E. **Surprising**

Word Knowledge (cont.)

21. **TERSE**
    - A. Faulty
    - B. Unite
    - C. Recall
    - D. Utility
    - E. Pointed

22. **TRIVIAL**
    - A. Distress
    - B. Petty
    - C. Teamwork
    - D. End
    - E. Abnormal

23. **VERIFY**
    - A. Confirm
    - B. Vague
    - C. Seed
    - D. Question
    - E. Explain

24. **COROLLARY**
    - A. Conclusion
    - B. Watchful
    - C. Trespass
    - D. Levitate
    - E. Bully

Word Knowledge (cont.)

25. **SUBSEQUENT**
    - A. **Precede**
    - B. **Lead**
    - C. **Encircle**
    - D. **Following**
    - E. **Unbridled**

Word Knowledge (cont.)

Practice Test - Answers

1.	D
2.	D
3.	C
4.	B
5.	C
6.	B
7.	E
8.	E
9.	E
10.	C
11.	C
12.	C
13.	B
14.	D
15.	E
16.	B
17.	A
18.	E
19.	D
20.	D
21.	E
22.	B
23.	A
24.	B
25.	D

Math Knowledge

- **Measures your knowledge of mathematical terms and principles.**
- **Focus on organizing your thoughts quickly and efficiently while solving the problems.**
- **Be systematic on any scratch paper calculations.**
- **You will be given 22 minutes to answer 25 questions.**

Math Knowledge Review

- **Know the definitions to the following terms:**
  Tangent
  Parallel
  Perpendicular
  Integer
  Rational/Irrational Number
  Mixed Number
  Fraction
  Reciprocal

Math Knowledge Review

- **Know the following concepts:**

  Trinomials
  - **Multiplying and Factoring**
  - **Remember FOIL?**

    Multiply the First term in each set of parentheses.

    Multiply the two terms on the Outside

    Multiply both of the Inside terms

    Multiply the Last term in each set of parentheses

  Standard mx+b equation for a line

  Division with decimals

  Mixed numbers and fractions with decimals

Math Knowledge Examples

Math Knowledge Example #1

1. Solve (5x2)x3-5x(10÷2)=
   - A. 3
   - B. 5
   - C. 6
   - D. 9
   - E. 11

Solution:

Step 1: Parentheses First
*(5x2)*x3-5x*(10÷2)*=

Step 2: Multiplication
(10)x3-5x(5)=

Step 3: Subtraction
30-25=5

Answer
The answer is 5, so the correct response is B.

Math Knowledge Examples

Math Knowledge Example #2

2. The hypotenuse of a right triangle whose legs are 6 feet and 8 feet is
   - A. 49 feet
   - B. 55 feet
   - C. 81 feet
   - D. 90 feet
   - E. 100 feet

Solution:

Pythagorean Theorem: The square of the hypotenuse is the sum of the square of the legs.

Step 1: Sum the square of the legs.

$6^2 + 8^2 =$

$36 + 64 = 100$

Step 2: Obtain the square root of the sum of the square of the legs.

$\sqrt{100} = 10$

Answer

The answer is 10, so the correct response is E.

Math Knowledge (cont.)

- **Practice Test**

Math Knowledge (cont.)

- **DIRECTIONS: This part of the test measures your knowledge of mathematical terms and principles. Each problem is followed by five possible answers. You are to decide which one of the five choices is correct.**

Math Knowledge (cont.)

1. 17/20 + 6/100 + 15/50 is equal to
   A. 43/50
   B. 111/100
   C. 121/100
   D. 83/50
   E. 289/25
2. 5v-u=-2 and –v+9u=18, then the simultaneous solution of the given equation is:
   A. u=3, v=9
   B. u=2, v=0
   C. u=1, v=-9
   D. u=-2, v=-36
   E. u=3, v=-15

Math Knowledge (cont.)

3. **Which of the following statements is false?**
   A triangle can have
   - A. **three equal angles**
   - B. **one obtuse angle**
   - C. **three equal sides**
   - D. **two right angles**
   - E. **three acute angles**

4. **The value in -1/9√(81) is equal to**
   - A. **0**
   - B. **-1**
   - C. **1**
   - D. **-9**
   - E. **9**

Math Knowledge (cont.)

5. The factors of $30x^2-30$ are
   A. (5x-6), (6x+5)
   B. (15x+5), (2x-6)
   C. (5x-6), 6x-5)
   D. (30x-5), (x+6)
   E. (5x+5), (6x-6)
6. Solve 5/6+3/4+(3/2*9/21)
   A. 66/52
   B. 187/84
   C. 120/57
   D. 66/145
   E. 123/124

Math Knowledge (cont.)

7. **Solve for x using the following two equations:**
   2x+4y=10 and 9x-4y=20
   A. **x=21/15**
   B. **x=40/21**
   C. **x=30/11**
   D. **x=8/9**
   E. **x=29/13**
8. **The hypotenuse of a right triangle whose legs are 3 feet and 4 feet is**
   A. **4**
   B. **5**
   C. **6**
   D. **7**
   E. **8**

Math Knowledge (cont.)

9. If w=4c then (3/4)w=
   - A. 3/3c
   - B. 4/3c
   - C. 3c
   - D. c/3
   - E. c/4

10. Factor $x^2+7x+10$
   - A. (2x+2)(x+5)
   - B. (x+5)(x+2)
   - C. (x+2)(2x+2)
   - D. (2x+5)(x+5)
   - E. (2x+)(x+10)

Math Knowledge (cont.)

11. 12.687x10-4 is equal to
    A. 1.2687
    B. .12687
    C. .012687
    D. .0012687
    E. .00012687
12. What is the probability of randomly drawing an odd number between 24 and 33 (inclusive)?
    A. 50%
    B. 66%
    C. 75%
    D. 80%
    E. 90%

Math Knowledge (cont.)

13. 2/3*3/4*4/5*5/6*6/7*7/8=
    A. 1/16
    B. 1/8
    C. ¼
    D. ½
    E. None of the above
14. $10^5*10^6*10^7=$
    A. 10^{15}
    B. 10^{18}
    C. 10^{21}
    D. 10^{24}
    E. 10^{30}

Math Knowledge (cont.)

15. $10^y/10^z$ equals
    A. $10^{y/z}$
    B. 10^{yz}
    C. 10^{y+z}
    D. 10^{y-z}
    E. None of the above
16. Solve for x when: $(2x)/7=2x^2$
    A. 1/7
    B. 2/7
    C. 2
    D. 7
    E. 14

Math Knowledge (cont.)

17. $(-3)^3 =$
    - A. 9
    - B. -9
    - C. 27
    - D. -27
    - E. None of the above

18. $\frac{x-2}{x^2-1}$ can be reduced to:
    - A. $1/(x-4)$
    - B. $1/(x-2)$
    - C. $(x-2)/(x+2)$
    - D. $1/(x+2)$
    - E. $1/(x+4)$

Math Knowledge (cont.)

19. **What are the next two choices following the below pattern?**

A R C S E T G ___ ___

A. UH
B. HI
C. UI
D. IU
E. IH

20. **What is the next logical choice following the below pattern?**

2 4 12 48 ____

A. 96
B. 144
C. 192
D. 204
E. 240

Math Knowledge (cont.)

21. The sum of all exterior angles of a triangle is always
    A. 540 degrees
    B. 720 degrees
    C. 900 degrees
    D. 1080 degrees
    E. 1260 degrees
22. √(28) - √(7) reduces to
    A. √(4)
    B. √(7)
    C. 3√(7)
    D. √(21)
    E. -√(35)

Math Knowledge (cont.)

23. The volume of a cylinder with radius b and height w is

A. bw
B. $2bw$
C. $2\pi bw$
D. $4\pi bw$
E. None of the above

24. The sum of the interior angles of a pentagon is

A. 360 degrees
B. 540 degrees
C. 720 degrees
D. 900 degrees
E. 1180 degrees

Math Knowledge (cont.)

25. If $2^n=8$, what is the value of 3^{n+1}?
    A. 70
    B. 81
    C. 95
    D. 102
    E. None of the above

Math Knowledge (cont.)

Practice Test - Answers

1. C
2. B
3. D
4. B
5. E
6. B
7. C
8. B
9. C
10. B
11. D
12. A
13. C
14. B
15. D
16. A
17. D
18. A
19. C
20. E
21. C
22. B
23. E
24. B
25. B

Reading Comprehension

- **New section introduced in Form T.**
- **Incorporates the types of written materials required in officer Professional Military Education (PME).**
- **Includes 5 passages of approximately 500-600 words, followed by 4-6 questions.**
- **You will be given 38 minutes to answer 25 questions.**

Reading Comprehension (cont.)

- **Practice Test**

Reading Comprehension (cont.)

- **DIRECTIONS: This part of the test measures your ability to read and understand written material. Each passage is followed by a series of multiple-choice questions. You are to choose the option that best answers the question based on the passage. No additional information or specific knowledge is needed.**

Reading Comprehension (cont.)

One of the fears haunting policy makers is the appearance of a pathogen, either manmade or natural, able to devastate mankind, as the "Black Death" did in the Middle East and Europe in the middle of the Fourteenth Century. Within barely a year, approximately a third of Europe's population died. The second and third-order effects of the pandemic on society, religion, and economics were devastating. In effect, the Black Death destroyed the sureties undergirding Medieval European civilization.

It is not likely that a pandemic on this scale will devastate mankind over the next two decades. Even though populations today are much larger and more concentrated, increasing the opportunities for a new pathogen to spread, the fact that mankind lives in a richer world with greater knowledge of the world of microbes, the ability to enact quarantines, a rapid response capability, and medical treatment suggest that authorities could control even the most dangerous of pathogens. The crucial element in any response to a pandemic may be the political will to impose quarantine.

The rapid identification and response to the 2009 H1N1 flu strain and the rapid termination of the 2003 Severe Acute Respiratory Syndrome (SARS) pandemic illustrate the seriousness with which medical authorities view these. In the case of SARS, after initial reports surfaced from East Asia in February of an atypical respiratory disease, medical authorities reported more than 8,000 cases in 30 different countries. The disease itself was highly contagious and life-threatening: almost 10% of reported cases died. However, once doctors identified the disease, the combined efforts of local, national, and international authorities contained it within five months. Newly reported cases increased rapidly in March and April 2003, peaked in early May, and rapidly declined thereafter.

Reading Comprehension (cont.)

The H1N1 and SARS examples do not mean, however, that the threat of social disorder or disruption originating from a viral source requiring Joint Force capabilities is nonexistent. A repetition of the 1918 influenza pandemic, which led to the deaths of millions world-wide, would have the most serious consequences for the United States and the world politically as well as socially. The dangers posed by the natural emergence of a disease capable of launching a global pandemic are serious enough, but the possibility exists also that a terrorist organization might acquire a dangerous pathogen.

The deliberate release of a deadly pathogen, especially one genetically engineered to increase its lethality or virulence, would present greater challenges than a naturally occurring disease like SARS. While the latter is likely to have a single point of origin, terrorists could seek to release the pathogen at several different locations in order to increase the rate of transmission across a population. This would seriously complicate both the medical challenge of bringing the disease under control and the security task of fixing responsibility for its appearance.

The implications for the Joint Force of a pandemic as widespread and dangerous as that of 1918 would be profound. American and global medical capabilities would soon find themselves overwhelmed. If the outbreak spreads to the United States, the Joint Force might have to conduct relief operations in support of civil authorities that, consistent with meeting legal prerequisites, could go beyond assisting in law enforcement and maintaining order. Even as Joint Force commanders confronted an array of missions, they would also have to take severe measures to preserve the health of their forces and protect medical personnel and facilities from public panic and dislocations. Thucydides captured the moral, political, and psychological dangers that a global pandemic would cause in his description of the plague's impact on Athens: "For the

Reading Comprehension (cont.)

1. The primary purpose of the passage is to

A. Describe the impact of the “Black Death” on Medieval European civilization
B. Compare and contrast the threat of manmade pathogens to that of natural pathogens
C. Identify the potential threats of future pandemics and implications for the Joint Force
D. Provide a comprehensive historical account of pandemics from the Fourteenth Century to 2009
E. Summarize the collaborative role of medical authorities and Joint Force commanders in responding to pandemics

2. In the second paragraph, “scale” most nearly means

F. Ranking
G. Hierarchy
H. Magnitude
I. Balance
J. Weight

Reading Comprehension (cont.)

3. As inferred from the passage, which of the following factors made the "Black Death" pandemic LESS devastating?

A. unwillingness to isolate infected individuals
B. substantial societal wealth
C. large population in the region
D. availability of appropriate medical treatment
E. sparse population density

4. The H1N1 and SARS pandemics are discussed primarily to

F. Illustrate the potential threat of pandemics spreading across national borders
G. Suggest that capabilities of the Joint Forces could have limited H1N1/SARS fatalities
H. Contrast the efficacy of East Asian medical authorities with those in the United States and Europe
I. Demonstrate the success of contemporary medical authorities in containing some pandemics
J. Show that these recent pandemics are atypical of those caused by other respiratory diseases

Reading Comprehension (cont.)

5. With which one of the following claims about pandemics would the author most likely agree?

A. **The political will to impose quarantine will be sufficient to contain future pandemics**
B. **The Joint Force will need to assist medical authorities in response to a pandemic only if terrorists are involved**
C. **Policy makers fears of potential devastation exaggerate the likely consequences of a future pandemic**
D. **The Joint Force should be restricted to law enforcement or peace-keeping duties in response to a U.S. pandemic**
E. **Medical advances that could allow terrorists to genetically engineer pathogens make the potential threat of pandemic greater than during Medieval times**

Reading Comprehension (cont.)

- **Practice Test - Answers**

1. **A**
2. **C**
3. **E**
4. **D**
5. **C**

Situational Judgment Test

- New section introduced in Form T.
- Evaluates judgment in responding to the types of interpersonal situations frequently encountered by officers.
- You will be given 35 minutes to answer 50 questions.

Situational Judgment Test (cont.)

- **Practice Test**

Situational Judgment Test (cont.)

DIRECTIONS: This part of the test measures your judgment in responding to interpersonal situations similar to those you may encounter as an officer. Your responses will be scored relative to the consensus judgment across experienced U.S. Air Force officers.

For each situation, you must respond to two questions. First, select which one of the five actions listed you judge the MOST EFFECTIVE action in response to the situation. Then, select which one of the five actions listed you judge the LEAST EFFECTIVE action in response to the situation. [*NOTE: Although some actions may have been judged equally effective or equally ineffective by experienced officers, select only one action (A-E) for each question.*]

Situational Judgment Test (cont.)

Situation I. You have recently been assigned to lead a section comprised of experienced subordinates, but you do not have a full understanding of the mission and tasks. Your subordinates are not helpful when you solicit ideas and information from them. You know it is necessary for you to understand your job and the other section members' jobs in order to effectively lead your section and accomplish the mission.

Possible actions:

A. Contact the superior who assigned you to the section for further guidance.

B. Contact the individual previously assigned to the section for guidance.

C. Meet privately with the most senior subordinate to discuss the section's mission.

D. Meet individually with each subordinate to get to know them personally.

E. Call a section meeting, and emphasize that you need everyone's cooperation in order to help the section succeed.

1. Select the MOST EFFECTIVE action (A-E) in response to the situation

Situational Judgment Test (cont.)

Situation II. You are in charge of a project supported by people who do not fall directly under your supervision, including a civilian engineer. The engineer always provides update briefings in your meetings with the commander, who is superior in authority to the engineer and your immediate supervisors. When answering technical questions about the project, the engineer often leaves out relevant facts. You recognize the engineer is filtering his responses, sometimes to the point of being untruthful.

Possible actions:

A. Speak up during the meeting to present the full, unfiltered information yourself.

B. Immediately after the meeting, discuss your concerns privately with the engineer.

C. Immediately after the meeting, notify the engineer's supervisor of your concerns.

D. Immediately after the meeting, notify your supervisor of your concerns to seek advice.

E. Immediately after the meeting, meet privately with the commander to present the full, unfiltered information.

Situational Judgment Test (cont.)

- **Practice Test - Answers**

1. **C or D (Most Effective)**
2. **A (Least Effective)**
3. **B (Most Effective)**
4. **E (Least Effective**

Self-Description Inventory

- Measures your personal style and attitudes.
- There are no right or wrong answers.
- You will be given 45 minutes to answer 240 questions.

Self-Description Inventory (cont.)

DIRECTIONS: This inventory records your personal style and attitudes. There are no *right* or *wrong* answers – the goal is to record your first impressions and identify Air Force jobs where people who respond like you find the work satisfying. The inventory consists of a list of statements. Read each statement and, based on your first impression, record how well each one describes you.

Look at the sample statement below:

S1. I enjoy reading poetry.

Indicate yo

A	B	C	D	E
Strongly Disagree	Moderately Disagree	Neither Agree nor Disagree	Moderately Agree	Strongly Agree

If you strongly agree that the statement describes you, select response E on the scale. If you strongly disagree, select response A on the scale. You would select B, C, or D to indicate other levels of agreement.

You should work quickly and reply to all statements. Give your first impression about how well each statement describes you. Don't spend a long time deciding what your answer should be. Answer all statements, even if you're not sure of your answer.

Physical Science

- **With the release of Form T, “General Science” was replaced with “Physical Science” and includes questions that focus on concepts related to physical science.**
- **You will be given 10 minutes to answer 20 questions.**

Physical Science (cont.)

- **Practice Test**

Physical Science (cont.)

- **DIRECTIONS: This part of the test measures your knowledge in the area of science. Each of the questions or incomplete statements is followed by five choices. You are to decide which one of the choices best answers the question or completes the statement.**

Physical Science (cont.)

1. In the International System of Units, a measurement for mass is

- **A. a meter.**
- **B. a henry.**
- **C. an ampere.**
- **D. a kilometer.**
- **E. a kilogram.**

2. A razor blade will rest on the surface of water in a shallow depression caused by its weight because of

- **F. surface tension.**
- **G. osmosis.**
- **H. homogeneity.**
- **I. dispersion.**
- **J. desalinization.**

3. The bending of light as it passes from one material into another is known as

- **K. inertia.**
- **L. adhesion.**
- **M. refraction.**
- **N. deflection.**
- **O. displacement.**

Physical Science (cont.)

4. Resistance is the tendency for a material to oppose the flow of electrons and is measured in

- **A. currents.**
- **B. amperes.**
- **C. ohms.**
- **D. watts.**
- **E. volts.**

5. In order for a lunar eclipse to take place, the

- **F. moon must be between the sun and the Earth.**
- **G. moon must be in the early crescent phase.**
- **H. Earth must be between the sun and the moon.**
- **I. Earth's axis of rotation must point toward the moon.**
- **J. Earth and moon must be on opposite sides of the sun.**

Physical Science (cont.)

- **Practice Test - Answers**

1. **E**
2. **A**
3. **C**
4. **C**
5. **C**

Table Reading

- **Measures your ability to read a table quickly and accurately.**
- **You will be given 7 minutes to answer 40 questions.**

Table Reading (cont.)

- **Practice Test**

Table Reading (cont.)

- **DIRECTIONS: This part of the test measures your ability to read a table quickly and accurately. Look at the table on the following slide. Notice that the X values appear at the top of the table and the Y values are shown on the left side of the table. The X values are the column values. The Y values are the row values. For each test question, you are given an X and a Y value. Your task will be to find the block where the column and row intersect, note the number that appears there, and then find this number among the five answer options.**

Table Reading (cont.)

Y VALUE \ X VALUE	-3	-2	-1	0	+1	+2	+3
+3	25	26	28	30	31	32	33
+2	26	28	30	32	33	34	35
+1	27	29	31	33	35	36	37
0	29	30	32	34	36	37	38
-1	30	32	33	35	37	38	40
-2	31	33	34	36	38	39	41
-3	32	34	35	37	39	40	42

	X	Y	A	B	C	D	E
1.	+1	+2	35	36	30	33	34
2.	0	-3	29	37	39	30	36
3.	-2	+3	26	32	34	28	40
4.	-1	0	33	30	35	36	32
5.	+3	-1	41	27	40	38	39

Table Reading (cont.)

- **Practice Test - Answers**

1. **D**
2. **B**
3. **A**
4. **E**
5. **C**

Table Reading (cont.)

- **Additional Practice Test**

  For an additional full-length practice test, refer to the following files:

  - **Table-Reading Chart.xls**
  - **Table Reading Items.xls**
  - **Table Reading Key.xls**

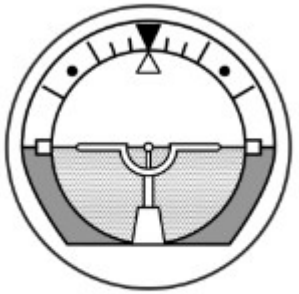
Instrument Comprehension

- **Measures your ability to determine the position of an airplane in flight.**
- **Rules:**
  - **The arrow on the artificial horizon always point to the sky.**
  - **On the answer options, the “camera” is always at the level of the airplane, looking North.**
  - **It’s always the same plane.**
- **The test requires a very fast pace:**
  - **You will have 12 seconds per question.**
  - **Become very comfortable with the artificial horizon, the compass, and how they relate.**
  - **You will be given 5 minutes to answer 25 questions.**

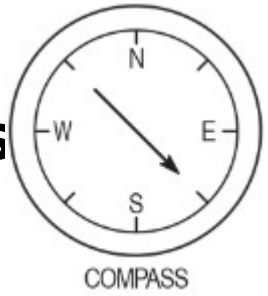
Instrument Comprehension (cont.)

Examples

- **Straight and level flight**



- **Airplane pointing southeas**



Instrument Comprehension (cont.)

- **Practice Test**

Instrument Comprehension (cont.)

- **DIRECTIONS: This part of the test measures your ability to determine the position of an airplane in flight from reading instruments showing its compass direction heading, amount of climb or dive, and degree of bank to right or left. Each problem consists of two dials and four answer options. In each problem, the left-hand dial is labeled ARTIFICIAL HORIZON. On the face of the dial a stationary indicator in the center represents the airplane, while the positions of the heavy black line, black pointer, and markings along the outer edge vary with changes in the position of the airplane in which the instrument is located.**

Instrument Comprehension (cont.)

The heavy black line represents the HORIZON LINE and tilts as the airplane is banked. The white pointer shows the degree of BANK to the right or left. The shaded portions of the instrument face represent the ground.

Dial 1

If the airplane is neither climbing nor diving, the horizon line is directly on the airplane indicator, as in dial 1 above. If the airplane has no bank, the white pointer is seen to point to the black pointer. Dial 1 shows an airplane in straight and level flight.

Dial 2

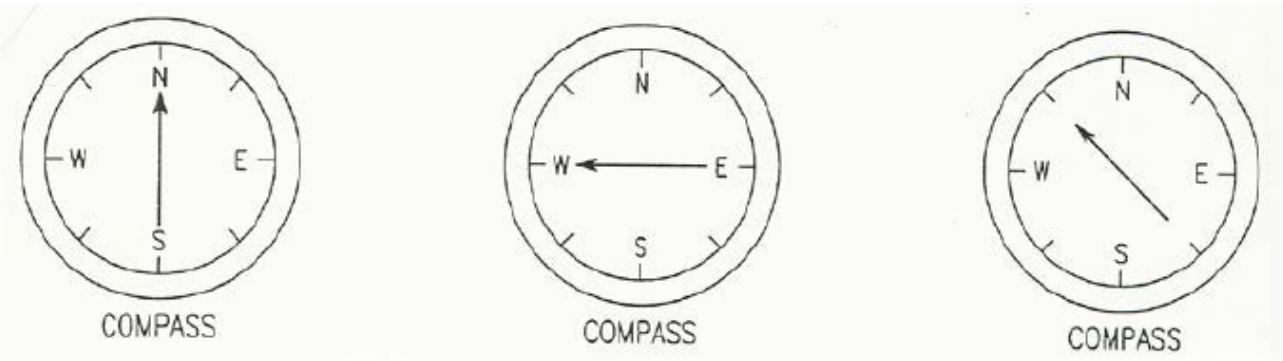
If the airplane is climbing, the airplane indicator is seen between the horizon line and the black pointer, as in dial 2 above. The greater the amount of climb, the greater the distance between the horizon line and the airplane indicator. If the airplane is banked to the pilot's right, the white pointer is seen to the right of the black pointer. Dial 2 shows an airplane climbing and banked 45° to the pilot's right.

Dial 3

If the airplane is diving, the horizon line is seen between the airplane indicator and the black pointer, as in dial 3 above. The greater the amount of dive, the greater the distance between the horizon line and the airplane indicator. If the airplane is banked to the pilot's left, the white pointer is seen to the left of the black pointer. Dial 3 shows an airplane diving and banked 45° to the pilot's left.

Instrument Comprehension (cont.)

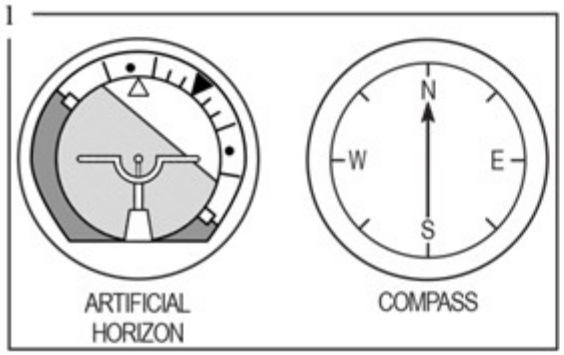
In each problem the right-hand dial is labeled COMPASS. On this dial, the arrow shows the compass direction in which the airplane is headed. Dial 4 shows the airplane headed north, dial 5 shows it headed west, and dial 6 shows it headed northwest.

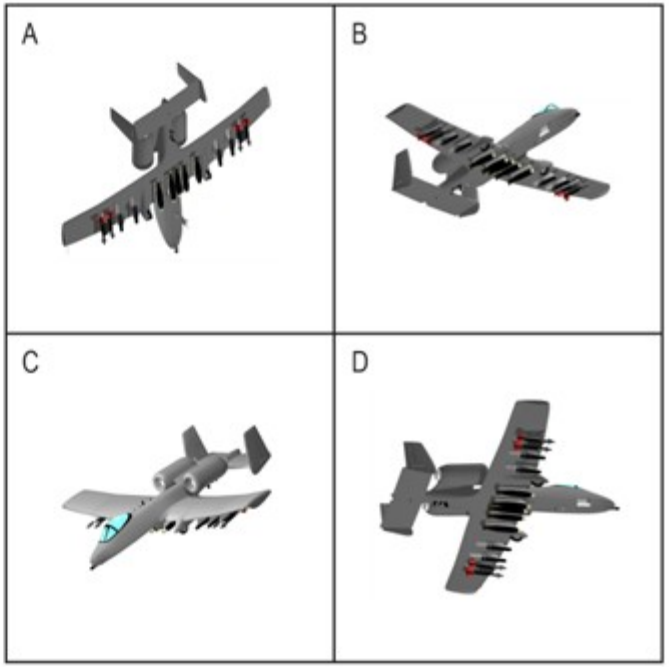


Dial 4 **Dial 5** **Dial 6**

Each problem consists of two dials and four airplanes in flight. Your task is to determine which one of the four airplanes is MOST NEARLY in the position indicated by the two dials. YOU ARE ALWAYS LOOKING NORTH AT THE SAME ALTITUDE AS THE FOUR AIRPLANES. EAST IS ALWAYS TO YOUR RIGHT AS YOU LOOK AT THE PAGE. In sample question X below, the dial labeled ARTIFICIAL HORIZON shows that the airplane is NOT banked, and neither climbing nor diving. The COMPASS shows that it is headed southeast. The only one of the four airplanes that meets these specifications is in the box lettered C; so, the answer to sample question X is C. Note that B is a rear view, whereas D is a front view. Note also that A is banked to the right and that B is banked to the left.

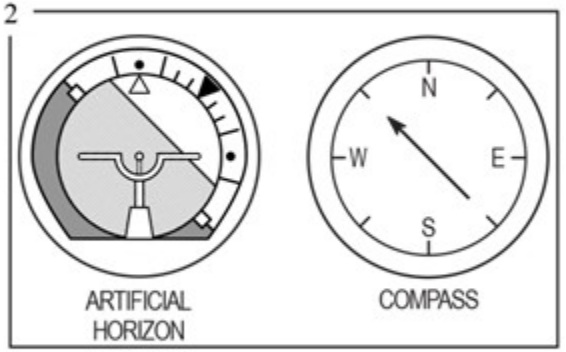
Instrument Comprehension (cont.)

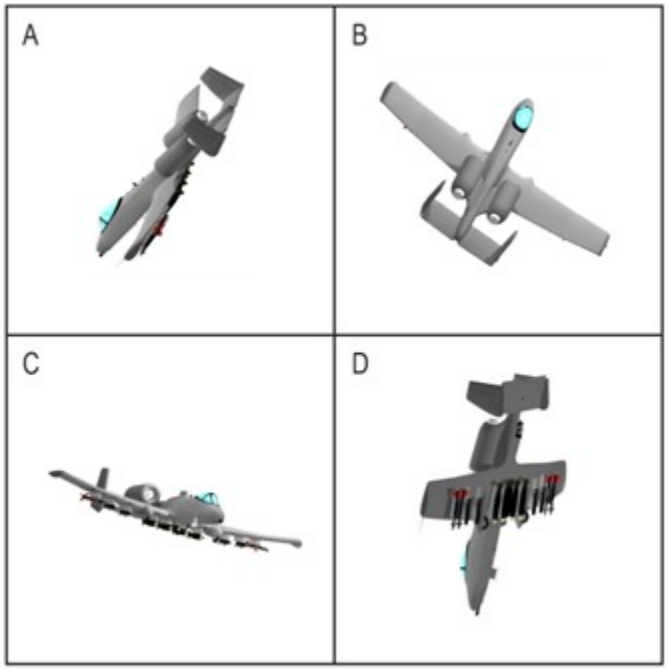




Instrument Comprehension (cont.)

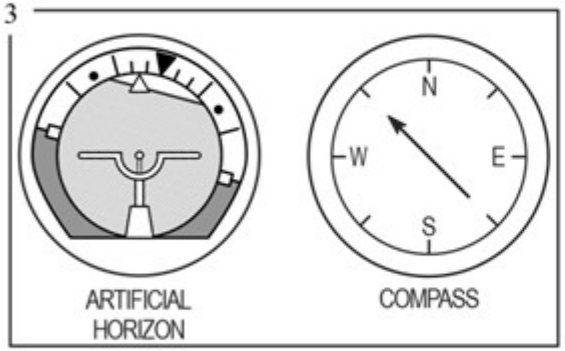
2

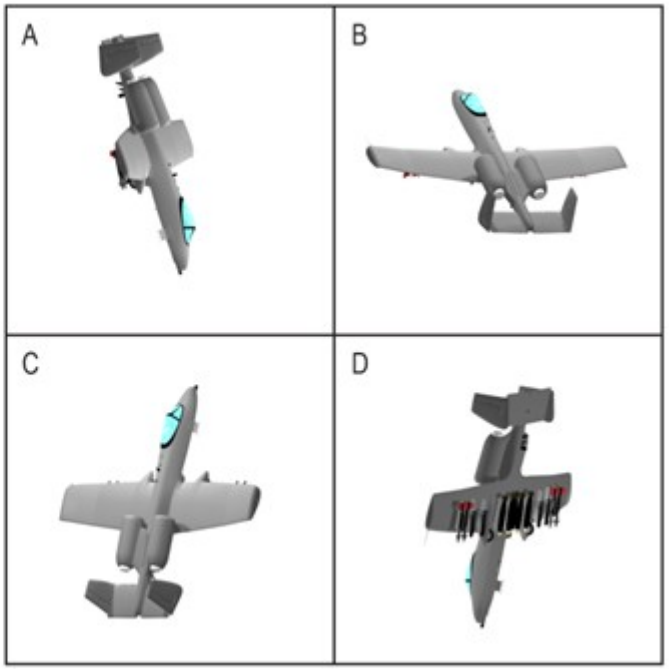




Instrument Comprehension (cont.)

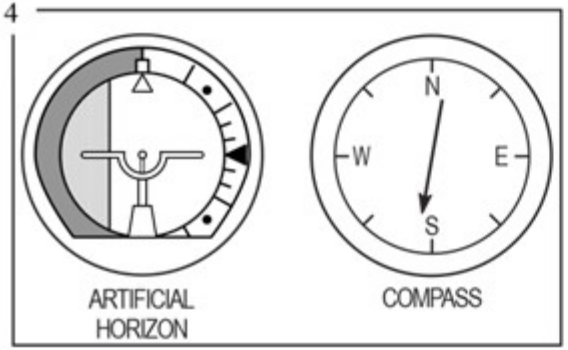
3

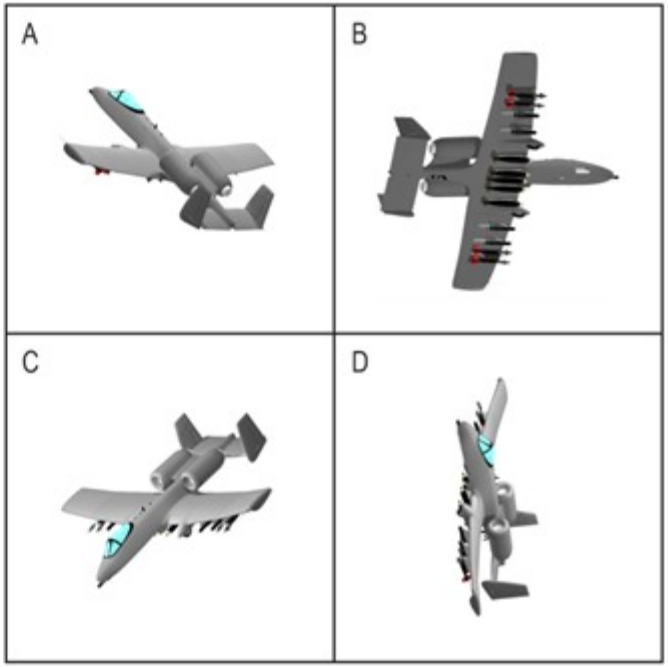




Instrument Comprehension (cont.)

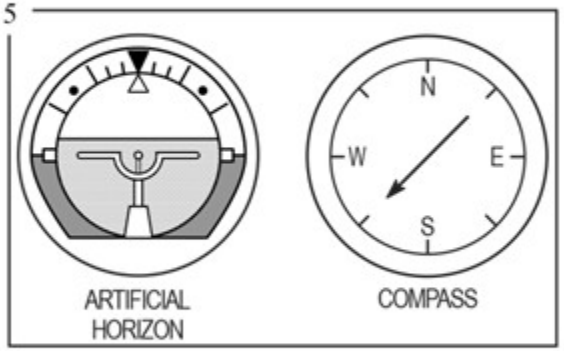
4

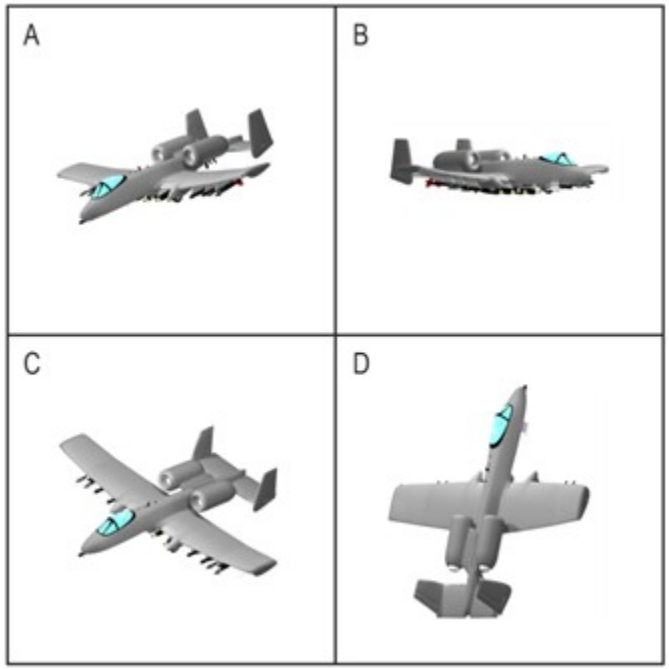




Instrument Comprehension (cont.)

5





Instrument Comprehension (cont.)

- **Practice Test - Answers**

1. **A**
2. **A**
3. **D**
4. **D**
5. **A**

Block Counting

- **Measures your ability to “see into” a 3-dimensional pile of blocks.**
- **You will be given 4.5 minutes to answer 30 questions.**

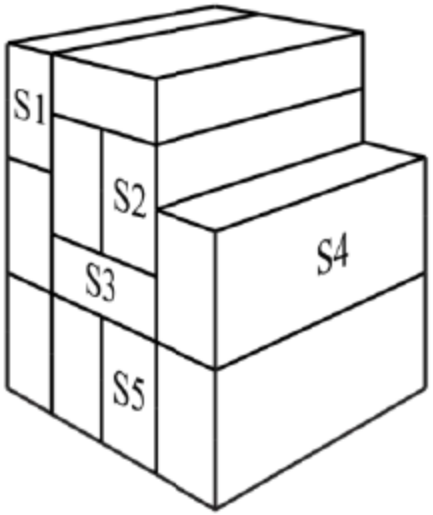
Block Counting (cont.)

- **Practice Test**

Block Counting (cont.)

- **DIRECTIONS: This part of the test measures your ability to "see into" a 3-dimensional pile of blocks. Given a certain numbered block, your task is to determine how many other blocks the numbered block touches. Blocks are considered touching only if all or part of their faces touch. Blocks that only touch corners do not count. All of the blocks in each pile are the same size and shape. Look at sample questions 1 through 5 on the next slide.**

Block Counting (cont.)



KEY					
Block	**A**	**B**	**C**	**D**	**E**
S1	1	2	3	4	5
S2	3	4	5	6	7
S3	5	6	7	8	9
S4	2	3	4	5	6
S5	2	3	4	5	6

Block Counting (cont.)

Practice Test - Answers

Block S1 touches the faces of the two blocks on the right and one block supporting it. Therefore, the total number of blocks touched by S1 is three. For sample question S1, choice C is the correct answer.

Block S2 touches the faces of blocks S3 and S4 and it rests against the adjacent blocks to its left and on top of it. Because block S2 touches four other block faces, the correct answer for sample question S2 is B.

Now look at sample question S3. S3 touches the faces of the two blocks above it, the two blocks below it, and the blocks directly to the right and left of it. It does not touch the faces of the two blocks diagonally below it to the right or left. These blocks only touch the corners of S3 and do not count. Therefore, S3 touches six blocks, making choice B the correct answer.

Now count the blocks touching blocks S4 and S5. For S4, the correct answer is three, so for sample question S4 choice B is the correct answer. S4 touches blocks S2, S3, and the block below it; it does not touch block S5. For S5, the correct answer is also 3, choice B. S5 touches the blocks to the left and right of it and S3 above it. Once again, block S5 does not touch block S4.

Aviation Information

- **Measures your knowledge of aviation.**
- **You will be given 8 minutes to answer 20 questions.**

Aviation Information (cont.)

- **Practice Test**

Aviation Information (cont.)

- **DIRECTIONS: This part of the test measures your knowledge of aviation. Each of the questions or incomplete statements is followed by five choices. You are to decide which one of the choices best answers the question or completes the statement.**

Aviation Information (cont.)

1. The rearward retarding force of airplane drag is opposed by

- **A. weight.**
- **B. lift.**
- **C. thrust.**
- **D. tension.**
- **E. compression.**

2. The cowling is located

- **F. on the landing gear.**
- **G. around the engine.**
- **H. close to the tail.**
- **I. on the wing.**
- **J. inside the fuselage.**

Aviation Information (cont.)

3. Airport taxiways are identified at night by omnidirectional edge lights. What color are the lights?

A. white
B. amber
C. alternate red and green
D. green
E. blue

4. If the aircraft ammeter is indicating a minus value, this means the

F. generator or alternator output is inadequate.
G. electrical system is functioning normally.
H. battery should be turned off.
I. battery is adequately charged.
J. battery requires water.

Aviation Information (cont.)

5. The angle formed by the chord of an airfoil and the direction of the relative wind is called the

A. angle of incidence.
B. angle of attack.
C. stall angle of the wing.
D. pitch angle.
E. critical angle of attack.

Aviation Information (cont.)

- **Practice Test - Answers**

1. **C**
2. **B**
3. **E**
4. **A**
5. **B**

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